PND8

COST-EFFECTIVENESS OF PREGABALIN AND OTHER ADD-ON ANTIEPILEPTIC DRUG THERAPIES IN PATIENTS WITH REFRACTORY PARTIAL EPILEPSY IN ARGENTINA

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OBJECTIVES: To estimate the cost-effectiveness of pregabalin and other add-on antiepileptic drug therapies in patients with refractory partial epilepsy [RPE] in Argentina **METHODS:** Using simulation modeling techniques, we estimated clinical outcomes and costs for a hypothetical cohort of 1000 patients with RPE alternatively assumed to receive pregabalin (300 and 600 mg/d), lamotrigine (300 and 500 mg/d), oxcarbazepine (1200 and 2400 mg/d), topiramate (200 and 400 mg/d), and no add-on therapy. Outcomes of interest were examined assuming no therapy discontinuation and included the expected mean number of days free of seizures ("seizure-free days" [SFD]) and the costs of add-on antiepileptic medication over one year for each therapy. Parameter estimates were based on efficacy data from randomized controlled trials of these agents and costs of medications (in Argentine Pesos [ARS]) from local sources. Cost-effectiveness was calculated as the incremental cost (vs no add-on therapy) per additional SFD. **RESULTS:** The incremental cost of pregabalin (vs no add-on therapy) per additional SFD was (mean (95% CI), ARS) 117 (91,152) for pregabalin 300 mg/d, 194 (166, 228) for lamotrigine (300 mg/d), 120 (100,150) for oxcarbazepine (2400 mg/d), and 235 (99, 1071) for topiramate (400 mg/d). When higher dosages were examined values were 157 (132, 181) for pregabalin 600 mg/d, 306 (271, 356) for lamotrigine (500 mg/d), 176 (145, 212) for oxcarbazepine (2400 mg/d), and 196 (142, 269) for topiramate (400 mg/d). **CONCLUSION:** The estimated cost-effectiveness of add-on antiepileptic therapy vs no add-on therapy for patients with RPE in Argentina is favorable for pregabalin (117–157 ARS per additional SFD) followed by OXC (120–176 ARS per additional SFD).

PND9

THE COST-EFFECTIVENESS OF NATALIZUMAB IN PATIENTS WITH RELAPSING MULTIPLE SCLEROSIS

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OBJECTIVES: Natalizumab is a new disease-modifying therapy (DMT) for the treatment of relapsing multiple sclerosis (MS). A model was designed to determine the relative cost-effectiveness of natalizumab compared with the other four currently available disease-modifying therapies (intramuscular [IM] interferon beta [IFNβ]-1a, IFNβ-1b, glatiramer acetate [GA], and subcutaneous [SC] IFNβ-1a) for the treatment of relapsing MS in the United States. **METHODS:** Analyses were conducted from a managed care perspective with a time horizon of 2 years (first 2 years after initiation of therapy). Model inputs were drug acquisition costs, costs of drug administration and monitoring, costs of treating relapses, and anticipated reduction in relapse rates. Outcomes included total 2-year costs per patient and costs per relapse avoided for each therapy. Number of relapses avoided was calculated as the weighted average number of relapses for placebo-treated patients (1.90) multiplied by the anticipated relapse rate reduction for each therapy (natalizumab, 67%; IM IFNβ-1a, 32%; IFNβ-1b, 34%; GA, 29%; and SC IFNβ-1a, 32%). Cost per relapse avoided was calculated as the total 2-year cost of therapy divided by the number of relapses avoided over 2 years. **RESULTS:** The overall 2-year cost of therapy per patient was $67,037 for natalizumab, $42,311 for IM IFNβ-1a, $44,680 for IFNβ-1b, $44,300 for GA, and $46,373 for SC IFNβ-1a. The cost per relapse avoided was lowest for natalizumab at $52,605 followed by $69,091 for IFNβ-1b, $69,517 for IM IFNβ-1a, $76,191 for SC IFNβ-1a, and $80,314 for GA. Model inputs with the most influence on cost per relapse avoided for natalizumab were weighted average number of relapses prior to treatment and anticipated relative reduction in relapse rate. **CONCLUSION:** Although the drug acquisition cost of natalizumab was higher than that of the other DMTs, it was the most cost-effective therapy as measured by total cost per relapse avoided.

PND10

AN ANALYSIS OF THE HEALTH AND PRODUCTIVITY BURDEN OF INSOMNIA AND ITS TREATMENT

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OBJECTIVES: The objective of this study was to estimate the direct and indirect costs of treated and untreated insomnia in an employed population. **METHODS:** The Medstat MarketScan® Database was used for this study. Patients were included if they had a primary diagnosis of insomnia and/or received a new prescription for a non-benzodiazepine hypnotic medication between July 1, 1999 and June 31, 2003. Total health care costs, plus costs due to absenteeism, were calculated for the insomnia cohort (n = 5605), and for the propensity score matched non-insomnia cohort (total n = 55,580), during 6-month pre-index and post-index periods. Change in total costs were compared using an ordinary least square model for insomnia patients who were treated versus not initially treated with a prescription hypnotic within 14 days of an insomnia diagnosis. **RESULTS:** Prior to matching, the insomnia cohort was slightly younger (40 vs. 42 years), more likely to be female (44% vs 31%), and had significantly more medical and psychiatric comorbidity than the non-insomnia cohort (Charlson Comorbidity Index score 0.32 vs. 0.11; $P < 0.01$). After using propensity score matching and second stage regressions, the difference in average total expenditures in the 6-month post-index period between the cohort of insomnia patients (n = 5584) and matched non-insomnia controls—the burden of insomnia—was $2738 ($p < 0.001$). Health care utilization contributed to 84% of total insomnia-related costs, while absenteeism contributed 16%. Six-month costs for prescription hypnotics averaged less than $100 per patient. Both the treated and initially untreated insomnia patients experienced an increase in total costs; however, the increase for treated insomnia patients was $788 less than for the initially untreated insomnia patients. **CONCLUSION:** Insomnia has a significant impact on direct health care cost, and on costs related to absenteeism. Insomnia treatment appears to be cost-effective relative to non-treatment, or delayed treatment.

PND11

LIFETIME CLINICAL AND ECONOMIC CONSEQUENCES OF CHANGES IN BODY WEIGHT ASSOCIATED WITH MIGRAINE HEADACHE PROPHYLAXIS WITH TOPIRAMATE VERSUS AMITRIPTYLINE

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OBJECTIVES: To estimate expected clinical and economic consequences of induced changes in body weight associated

with migraine headache prophylaxis with topiramate versus amitriptyline. **METHODS:** Lifetime incidence and costs of cardiovascular disease (CVD) were estimated for patients receiving topiramate or amitriptyline as migraine headache prophylaxis. Projections were based on a model of the clinical and economic consequences of overweight and obesity, and data from a recent six-month controlled clinical trial of these agents, which demonstrated that they were equally effective in preventing migraines. Analyses were undertaken for a hypothetical cohort of 1000 women, aged 35 to 44 years at therapy initiation, with pre-treatment body mass index (BMI) of 28. Topiramate patients were assumed to experience a 1.26 unit decrease in BMI at six months, based on clinical trial data; and amitriptyline patients were assumed to experience an increase of 1.51; changes were assumed to persist over a lifetime. Model outcomes included expected lifetime cumulative incidence of coronary heart disease (CHD) and stroke, and life expectancy. Expected lifetime costs were calculated based on estimated event risk and associated medical-care costs, using a third-party payer perspective. Costs were discounted at 3% annually. **RESULTS:** As a result of changes in BMI, the estimated prevalence of hypertension, hypercholesterolemia, and diabetes was higher for amitriptyline versus topiramate at all future ages. Amitriptyline patients were also estimated to develop an additional 18 cases of CHD (per 1000 patients) compared to those receiving topiramate. Life expectancy was 0.4 years longer for topiramate patients, and their lifetime cumulative direct costs of CVD and metabolic disease were about $3500 lower than those for amitriptyline. **CONCLUSION:** Migraine headache prophylaxis with topiramate rather than amitriptyline may yield important clinical and economic benefits as a result of differences in induced changes in body weight.

PND12

IMPACT OF RELAPSES ON TOTAL COSTS OF CARE FOR PATIENTS WITH MULTIPLE SCLEROSIS

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OBJECTIVES: We investigate the impact of recurrent relapses on short- and long-term health care costs in the United States. Relapses in multiple sclerosis (MS) are a major burden on patients' welfare and related health care costs, and have been shown to impact residual disability. While relapse costs have been reported previously, no publication has examined the impact of recurrent relapses on total health care costs. **METHODS:** We used medical (International Classification of Diseases-9 diagnoses) and pharmacy claims from a large, US National Health Plan database to identify MS patients with >=1 relapse who had enrolled in the plan between 2002–2004, and who had continuous enrolment 6 months pre- and 12 months post-index relapse. Costs were estimated based on claim charges, and were adjusted to project the amount in 2005 US dollars. Analyses were stratified by newly or previously diagnosed patients, and the number of relapses. Costs are presented in 90-day intervals in reference to the index relapse period (days 0–30). **RESULTS:** Newly diagnosed patients with >=2 relapses had higher monthly costs compared with patients with 1 relapse only at days 0–30 (index relapse) ($26,890 vs. $16,121), 31–90 ($3597 vs. $1506), and 271–360 ($3768 vs. $1074). Although previously diagnosed patients with >=2 relapses had costs similar to those of patients with 1 relapse only at index relapse at days 0–30 ($21,350 vs. $21,015), monthly costs were higher for patients with >=2 relapses at days 31–90 ($3792 vs. $2712) and remained higher at days 271–360 ($3636 vs. $1676). Monthly costs were generally higher for previously diagnosed patients with the exception of the acute phase of relapse (days 0–30) in the >=2 relapses subset. **CONCLUSION:** Recurrent relapses are associated with increased costs, both in the acute phase of managing a relapse and during the follow-up year in both newly diagnosed and previously diagnosed patients.

PND13

HEALTH CARE COSTS AND UTILIZATION FOR ALZHEIMER'S DISEASE PATIENTS

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OBJECTIVES: To examine comorbidity associated with Alzheimer's disease (AD) and cost drivers using administrative claims. **METHODS:** We studied over-age-65 individuals with pharmacy benefits with employer-sponsored Medicare supplemental insurance in 2003–2004. AD patients were identified by having ≥1 claim with an AD diagnosis or ≥1 filled prescription for medication used exclusively for AD treatment in 2003. We used propensity scoring to select demographically-matched, non-demented Controls (3 : 1 ratio to AD) and compared these groups for disease prevalence (via a comprehensive classification system, Diagnostic Cost Groups (DCGs)), 2004 cost distributions, and reasons for ER visits and inpatient admissions. We used logistic regression to assess the marginal contribution of AD to the most common reasons for ER and inpatient admissions, using DCGs to control for total illness burden. **RESULTS:** Compared with controls (n = 75,327), AD patients (n = 25,109) have more comorbid medical conditions (8.1 vs. 6.5) and higher ($13,936 vs. $10,369) but less variable (CVs = 181 vs. 324) costs. Both groups expend one-third of overall costs on inpatient services, ≤29% on prescriptions, and ≥38% on outpatient services. Not only do more AD patients use ERs (27% vs. 42%) and hospitals (30% vs. 20%), but their hospitalizations are longer (3.38 vs. 1.93 days). Chest pain and contusion/superficial injury are the top two reasons for ER visits for both groups. Three of the top 4 reasons for inpatient admissions are also the same: pneumonia, hip fracture and heart failure. However, even after controlling for their excess illness burden, AD patients are at higher risk for hospitalizations due to hip fracture and pneumonia (odds ratios = 2.29 and 1.48, respectively). **CONCLUSION:** AD patients have significantly more comorbid disease, and are more likely to incur ER visits and inpatient admissions, than age-and-sex matched controls, even after adjusting for comorbidity differences.

PND14

ECONOMIC CONSEQUENCES OF THERAPEUTIC ALTERATION IN THE MANAGEMENT OF INSOMNIA

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OBJECTIVES: Pharmaceutical options for insomnia that treat both sleep induction and maintenance have only recently been launched in the U.S. The economic impact of treatment patterns with older drugs has not been thoroughly investigated in the literature. We hypothesized that since the older drugs only provided benefit for sleep induction, insomniacs who alternate therapy within one year of initiation would have greater economic burden compared to maintainers. **METHODS:** Treated insomnia patients were identified from Medstat Marketscan claims database with at least one prescription for existing insomnia agents during the study period (05/01/01 to 11/30/03).